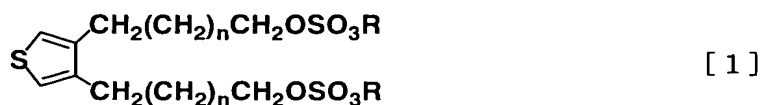


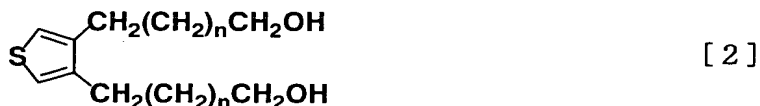
CLAIMS:

1. 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [1] below:



(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom, and n denotes an integer of 1 to 3.)

10 2. 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below:



(where n denotes an integer of 1 to 3.)

15 3. 3,4-bis(1-sulfoxypropyl-3-yl)thiophene represented by formula [3] below:



(where R denotes a hydrogen atom, alkali metal atom, or alkaline earth metal atom.)

20 4. 3,4-bis(1-hydroxypropyl-3-yl)thiophene represented by formula [4] below:



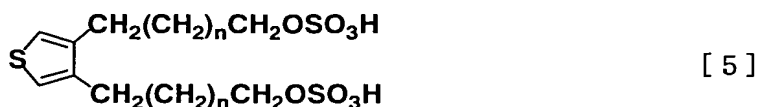
5. Sulfoxyalkynylthiophene defined in claim 1 or 3 above wherein the alkali metal atom is sodium or potassium.

6. A process which comprises steps of reacting  
5 3,4-bis(1-hydroxyalkyl)thiophene represented by formula [2] below:



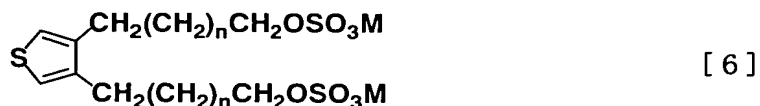
(where n denotes an integer of 1 to 3);

with a sulfur trioxide compound to give  
10 3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [5] below:



(where n is defined as above);

and reacting it with an alkali metal compound or  
15 alkaline earth metal compound to give a metal salt of  
3,4-bis(1-sulfoxyalkyl)thiophene represented by formula [6] below:



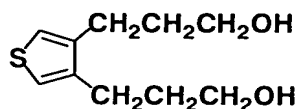
(where M denotes alkali metal atom or alkaline earth metal  
20 atom and n is defined as above.)

7. A process which comprises a step of reducing  
3-[4-(3-hydroxy-prop-1-ynyl)-thiophen-3-yl]-prop-2-yn-1-ol  
represented by formula [7]:



25

to give 3,4-bis(1-hydroxy-propyl-3-yl)thiophene represented by formula [4] below.



[ 4 ]

- 5    8.     The process for producing a metal salt of  
sulfoxyalkynylthiophene as defined in claim 6, wherein the  
alkali metal atom is sodium or potassium.
- 10   9.     The process for producing a metal salt of  
sulfoxyalkynylthiophene as defined in claim 6, wherein the  
sulfur trioxide compound is sulfur trioxide, sulfur  
trioxide·1,4-dioxane complex, sulfur trioxide·DMF  
(N,N-dimethylformamide) complex, or sulfur trioxide·pyridine  
complex.